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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,939	11/21/2003	Patrick Hosein	4740-229	2915

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EXAMINER	
MUI, GARY	
ART UNIT	PAPER NUMBER
2616	
MAIL DATE	DELIVERY MODE
04/02/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/718,939	HOSEIN ET AL.	
	Examiner	Art Unit	
	GARY MUI	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 January 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1 – 7, 12 – 19, 21 – 29, 34 – 41, 43, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng et al. (US 6,999,425 B2; hereinafter "Cheng") in view of Ito et al. (US 2005/0105604 A1; hereinafter "Ito").

For claim 1, Chang teaches calculating a load tracking value based on two or more period load indications (see column 5 lines 6 – 12; a Rate Limit is calculated from the load values). Chang fails to explicitly teach receiving periodic load indications from a base station. However it would have been obvious to one skilled in the art at the time of the invention to have the mobile receive the indication as Chang teaches that in the HDR system that an end user can automatically select or control the rate at which data is transmitted on the reverse link (see column 4 lines 48 – 50). Chang also fail to teach determining a rate change probability as a function of the load tracking value; and selectively changing the transmission rate of the mobile station responsive to a current rate control command based on the rate change probability. Ito from the same field of endeavor teaches the determining a probability and changing the transmission rate based on the probability (see paragraph 0034). Therefore, it would have been obvious to one skilled in art at the time of the invention was to change the rate of the mobile use probability as taught by Ito in conjunction with Chang system to control the rate with load values. The motivation for doing this is to maximize the utilization efficiency of the network.

For claim 23, Chang teaches a transmitter for transmitting signals to the base station at a variable data transmission rate dependent on the load indications (see column 3 lines 3 – 26; mobile station transmit a Rate Limit); a controller to vary the data transmission rate of the mobile station (see column 4 lines 48 – 50; rate is controlled), said controller operative to: calculate a load tracking value based on two or more period load indications (see column 5 lines 6 – 12; a Rate Limit is calculated from the load values). Chang fails to explicitly teach a receiver for receiving periodic load indications form a base station. However it would have

been obvious to one skilled in the art at the time of the invention to have the mobile receive the indication as Chang teaches that in the HDR system that an end user can automatically select or control the rate at which data is transmitted on the reverse link (see column 4 lines 48 – 50). Chang also fails to teach determine a rate change probability as a function of the load tracking value; and selectively change the data transmission rate of the mobile station responsive to a current rate control command based on the rate change probability. Ito from the same field of endeavor teaches the determining a probability and changing the transmission rate based on the probability (see paragraph 0034). Therefore, it would have been obvious to one skilled in art at the time of the invention was to change the rate of the mobile use probability as taught by Ito in conjunction with Chang system to control the rate with load values. The motivation for doing this is to maximize the utilization efficiency of the network.

For claims 2 and 24, Chang teaches the mobile station for implementing the method of calculating a load tracking value based on two or more periodic load indication comprises calculating a weighted average of two or more periodic load indications (see column 5 lines 20 – 49, the algorithm used previous load values).

For claims 3 and 25, Chang teaches the mobile station for implementing the method that the period load indication is received from the base station a predetermined rate control interval, and calculating a weighed average of two or more indication comprised calculating a weighed average of a current periodic load indication for a current rate control interval and at least one pervious periodic load indication for a previous rate control interval (see column 4 lines 48 –

50 and see column 5 lines 9 – 11 and lines 20 – 49, load value is obtain at a certain time frame and the calculation is done in a time window).

For claims 4 and 26, Chang teaches the mobile station for implementing the method of calculating a weighted average of two or more periodic load indications comprises calculating the weighted average with an exponential decay function (see column 5 lines 20 – 37).

For claims 5 and 27, Chang teaches the mobile station for implementing the method of calculating a load tracking value based on two or more periodic load comprises calculating a running average of two or more periodic load indications over a sliding time window (see column 5 lines 20 – 49).

For claims 6 and 28, Chang teaches the mobile station for implementing the method that the running average is a weighed average (see column 5 lines 20 – 49).

For claims 7 and 29, Chang teaches the mobile station for implementing the method of calculating a load tracking value based on two or more periodic load indications comprises evaluating a continuous load tracking function that converts discrete periodic load indications from the base station to a continuous load tracking value (see column 5 lines 20 – 49).

For claims 12 and 34, Ito teaches the mobile station for implementing the method of determining a rate change probability as a function of the load tracking value comprises scaling the load tracking value to generate the rate change probability (see paragraphs 0030 and 0034).

For claims 13 and 35, Ito teaches the mobile station for implementing the method that the rage change probability is a continuous rate change probability (see paragraph 0034).

For claims 14 and 36, Chang teaches the mobile station for implementing the method of determining a rate change probability as a function of the load tracking value comprises tracking the load tracking value as the rate change probability over at least a defined range of load tracking values (see column 5 lines 20 – 49).

For claims 15 and 37, Ito teaches the mobile station for implementing the method selectively changing the transmission rate of the mobile station responsive to a current rate control command based on the rate change probability comprises comparing the rate change probability to a random probability value, and adjusting the data transmission rate of the mobile station based on the outcome of the comparison (see paragraph 0060).

For claims 16 and 38, Chang teaches the mobile station for implementing the method of determining a sliding window in the range of possible load tracking values; comparing the load tracking value to the sliding window to obtain a comparison result; and determining the rate change probability based on an outcome of the comparison result (see column 5 lines 50 – 63).

For claims 17 and 39, Chang teaches the mobile station for implementing the method of determining the rate change probability based on an outcome of the comparison result comprises setting the rate change probability dependent on whether the load tracking value is within the sliding window (see column 5 lines 50 – 63).

For claims 18 and 40, Chang teaches the mobile station for implementing the method of setting the rate change probability dependent on whether the load tracking value is within the sliding window comprises setting the rate change probability to zero when the load tracking value is within the sliding window (see column 3 lines 16 – 26).

For claims 19 and 41, Chang teaches the mobile station for implementing the method of determining a sliding window in the range of possible load tracking values comprises determining the position of the sliding window in the load tracking range dependent on the current transmission rate of the mobile station (see column 5 lines 50 – 63).

For claims 21 and 43, Chang teaches the mobile station for implementing the method of determining a rate change probability is dependent on a user class associated with a user of the mobile station (see column 2 lines 5 – 14).

For claims 22 and 44, Chang et al. teaches the mobile station for implementing the method of determining a rate change probability is dependent on a quality of service criteria (see column 2 lines 5 – 14).

Claim Rejections - 35 USC § 103

5. Claims 8 – 11 and 30 – 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang and Ito as applied to claims 1 or 23 above, and further in view of Soliman (US 6,490,460 B1)..

For claims 8 – 11 and 30 – 33, neither Chang nor Ito teaches all of the subject matter of the claimed invention with the exception of determining a rate change probability as a function of the load tracking value comprises calculating the rate change probability based on the distance of the load tracking value from a target load tracking value; the rate change probability increases with distance over at least a defined range of load tracking; the rate change probability varies linearly over the defined range of load tracking; and the defined range is the entire range of possible values of the load tracking function. Soliman from the same field of

endeavor teaches the present invention dynamically adjusts the parameters of a power control loop that attempts to maintain the transmit power of a signal sent from a base station to a mobile station above a minimum threshold. In this embodiment, location information that is representative of the distance and the morphology between the mobile station and the base station is determined. The minimum threshold of the power control loop is then adjusted in accordance with the location information such that the minimum threshold varies as the distance and the morphology between the mobile station and the base station change (see column 2 lines 23 – 34). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to adjust the rate as taught by Chang to include the adjustment based on distance as taught by Soliman. The motivation for doing this is improve allow for a better transmission of data.

Claim Rejections - 35 USC § 103

6. Claims 20 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang and Ito as applied to claims 1 or 23 above, and further in view of Black (US 6,397,070 B1).

For claims 20 and 42, Chang teaches all of the subject matter of the claimed invention with the exception of determining a sliding window in the range of possible load tracking values comprises determining the position of the sliding window in the load tracking range dependent on the current transmission power of the mobile station. Black from the same field of endeavor teaches that a control command to decrease transmission power of forward link signals is sent to forward link transmission subsystem. In response to this signal, the power amplifier in the forward link transmission subsystem reduces the gain of the transmissions. In

addition, a corresponding signal to increase a noise floor of the receiver is sent to the receiver. In response to this signal noise is injected into the received reverse link signals (see column 9 lines 23 – 30). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to adjust the rate as taught by Chang to include the current transmission power as taught by Black. The motivation for doing this is to allow for a better calculation of the load value to better transmission system.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Balasubramanian et al. (US 2004/0179525 A1) is cited to show a common rate control method for reverse link channels in CDMA networks.

8. **Examiner's Note**: Examiner has cited particular paragraphs or columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to GARY MUI whose telephone number is (571)270-1420. The examiner can normally be reached on Mon. - Thurs. 9 - 3 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ricky Ngo/
Supervisory Patent Examiner, Art Unit 2616

/Gary Mui/
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03/31/2008